

REMARKS

Summary of the Amendment

Upon entry of the present Amendment, Claims 1, 6, 12, 14, 17 and 20 will have been amended; Claims 2-5, 8, 10, 13, 16, 18 and 21-22 will have been canceled without prejudice; and new Claims 23-51 will have been added. Accordingly, Claims 1, 6, 9, 11-12, 14, 17, 19-20 and 23-51 are currently pending.

Summary of the Office Action

Claims 1, 6, 9, 11-12, 14, 17 and 19-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable art of record.

Traversal of Rejection under 35 U.S.C. § 103(a)

Claims 1, 6, 9, 11-12, 14, 17 and 19-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,222,614 to Ohtomo [hereinafter "OHTOMO"].

Applicant respectfully traverses the aforementioned rejection.

Amended Independent Claim 1 (and Dependent Claims 6, 9, 11-12, 14, 17, 19-20):

As now amended, base Claim 1 now recites, *inter alia*, a heating mechanism configured to heat the chuck so that the temperature of the substrate is higher by at least 5 °C than the temperature of the liquid or gas, wherein the temperature of the liquid or gas is set to be between 5 °C and 18 °C.

Applicant respectfully submits that OHTOMO fails to teach or suggest at least the above-noted features of the present invention.

OHTOMO does not teach or suggest a heating mechanism configured to heat the chuck so that the temperature of the substrate is higher by at least 5 °C than the temperature of the liquid or gas, wherein the temperature of the liquid or gas is set to be between 5 °C and 18 °C.

In the Examiner's rejection, as best understood, it appears as if it is implied that the Examiner admits that OHTOMO does not have a heating mechanism, and therefore,

the Examiner appears to have modified OHTOMO "using a Peltier device". Further, the Examiner submits that such an arrangement is common and that such modification would be well within the skill of the ordinary person.

Applicant notes that a review of OHTOMO reveals that nowhere in OHTOMO is a heating mechanism provided for heating the chuck so that the temperature of the substrate is higher by at least 5 °C than the temperature of the liquid or gas, wherein the temperature of the liquid or gas is set to be between 5 °C and 18 °C.

The Examiner claims that using heating devices in a chuck of an exposure apparatus is obvious, however, no evidence (i.e. references) is provided which teaches such a concept.

Applicant respectfully notes that the Examiner does not even provide a prior art reference which teaches utilizing any type of heating mechanism in the chuck of an exposure apparatus, much less than in the configuration recited in Claim 1. Therefore, Applicant respectfully questions why if such an arrangement is so common, then how come the Examiner has been unable to produce any prior art references teaching the use of a heater to heat the chuck as evidence?

Accordingly, Applicant respectfully submits that the Examiner has failed to provide sufficient evidence for the proposed modification, and thus the rejection of at least independent Claim 1 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

Additionally, the Applicant's disclosure may not be used as a template for a rejection (i.e., the Examiner has used impermissible hindsight to find motivation).

Further, it appears that the proposed modification of OHTOMO as proposed by the Examiner has resulted from a review of the Applicant's disclosure and the application of impermissible hindsight to find motivation. Applicant notes that the Examiner has the initial duty of supplying the factual basis for the rejection and may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis. See In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967). As stated in W.L. Gore & Associates,

Inc. V. Garlock, Inc., 721 F.2d 1540, 1533, 220 USPQ 303, 312-313 (Fed. Cir. 1983), cert denied, 469 U.S. (1984):

[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which the inventor taught is used against its teacher.

In particular, Applicant submits that the Examiner has merely used the Applicant's disclosure as a template to find obvious the features of base Claim 1.

For the forgoing reasons, and because OHTOMO does not teach or suggest, *inter alia*, a heating mechanism configured to heat the chuck so that the temperature of the substrate is higher by at least 5 °C than the temperature of the liquid or gas, wherein the temperature of the liquid or gas is set to be between 5 °C and 18 °C, Applicant respectfully submits that Examiner's proposed modification is not proper, and therefore, does not render the combination of recited features in amended Claim 1 as being unpatentable.

Accordingly, Applicant respectfully submits that the Examiner has used impermissible hindsight to find motivation for the proposed modification, and thus the rejection of at least independent Claim 1 under 35 U.S.C. § 103(a) is improper and should be withdrawn for this additional reason.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of independent Claim 1 under 35 U.S.C. § 103(a) and indicate that this claim is allowable.

Furthermore, Applicant respectfully submits that dependent Claims 6, 9, 11-12, 14, 17 and 19 are allowable for the reason that these claims depend from allowable independent Claim 1 and because these claims recite additional features that further define the present invention.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejections of dependent Claims 6, 9, 11-12, 14, 17 and 19 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

Independent Claim 20:

As now amended, independent Claim 20 recites, *inter alia*, utilizing an exposure apparatus which [includes] a heating mechanism configured to heat the chuck so that the temperature of the substrate is higher by at least 5 °C than the temperature of the liquid or gas, wherein the temperature of the liquid or gas is set to be between 5 °C and 18 °C.

Applicant respectfully submits that OHTOMO fails to teach or suggest at least the above-noted features of the present invention for similar reasons discussed above.

Newly Submitted Claims Are Allowable

Applicant further respectfully submits that newly presented Claims 23-51 are allowable.

Independent Claim 23 (and Dependent Claims 24-36):

Independent Claim 23 recites, *inter alia*, . . . *maintaining a temperature of the coolant at about 10° C lower than the lowest of either a first temperature taken proximate the inner wall surface or a second temperature of the wafer, whereby out-gassing from the resin tubes is reduced by maintaining the temperature of the coolant at about 10° C lower than the lowest of either the first and second temperatures.*

Applicant respectfully submits that OHTOMO fails to teach or suggest at least the above-noted features of the present invention. **Overall, OHTOMO does not teach or suggest any method pertaining to the reduction of out-gassing from the resin tubes. And certainly, OHTOMO does not teach or suggest the particular manner or method, described above, which reduces out-gassing in exposure apparatuses.**

Furthermore, Applicant respectfully submits that dependent Claims 24-36 are allowable for the reason that these claims depend from allowable independent Claim 23 and because these claims recite additional features that further define the present invention.

Accordingly, Applicant requests the Examiner to indicate Claims 23-36 as being allowable in the next Office Action.

Independent Claim 37 (and Dependent Claims 38-51):

Independent Claim 37 recites, *inter alia*, . . . wherein a temperature of the coolant is maintained at about 10° C lower than the lowest of either a first temperature taken proximate the inner wall surface or a second temperature of the wafer, whereby out-gassing from the resin tubes is reduced by maintaining the temperature of the coolant at about 10° C lower than the lowest of either the first and second temperatures.

Applicant respectfully submits that OHTOMO fails to teach or suggest at least the above-noted features of the present invention. **Overall, OHTOMO does not teach or suggest the claimed exposure apparatus which includes features pertaining to the reduction of out-gassing from resin tubes.**

Furthermore, Applicant respectfully submits that dependent Claims 38-51 are allowable for the reason that these claims depend from allowable independent Claim 37 and because these claims recite additional features that further define the present invention.

Accordingly, Applicant requests the Examiner to indicate Claims 37-51 as being allowable in the next Office Action.

Application is Allowable

Applicant respectfully submits that each and every pending claim of the present invention meets the requirements for patentability and respectfully requests the Examiner to indicate allowance of each and every pending claim of the present invention.

CONCLUSION

Applicant respectfully submits that each and every pending claim of the present application meets the requirements for patentability under 35 U.S.C. §§ 112, 101, 102 and 103, and respectfully requests that the Examiner indicate the allowance of such claims.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based on the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions or comments, the Examiner is invited to contact the undersigned at the below-listed telephone number.

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